

A NEW SPECIES OF *NEOFEDRIZZIA* FROM SARAWAK
(ACARINA: MESOSTIGMATA: FEDRIZZIIDAE)¹

Robert Pope and Neil Chernoff

Abstract.—A new species of Mesostigmatid mite of the family Fedrizziidae is described. The new species, *Neofedrizzia tani*, was collected in Sarawak, Malaysia. As is the case with all other species within this family, it was found on beetles of the family Passalidae.

The family Fedrizziidae (Trägårdh, 1937) contains 20 species of mites belonging to three genera; *Fedrizzia*, *Neofedrizzia*, and *Parafedrizzia*. All of the known species have been found on beetles of the family Passalidae collected in Australia, New Guinea, and the Mollucas. The genus *Neofedrizzia*, erected by Wormersly (1959) can be distinguished from the other genera in the family by the absence of a free jugular shield in the male. The genus contains 11 species, 9 from Australia, and 1 each from New Guinea and the Mollucas. In the present paper a new species is described from passalid beetles collected in Sarawak.

Neofedrizzia tani, new species
(Figures 1 and 2)

Female.—General body shape oval, narrower at the anterior end; idiosoma 784 μ long, 560 μ wide. DORSUM. Covered by single plate extending over gnathosoma as a narrow hyaline shield. Numerous pores and simple setae present. A pair of large simple setae at anterior portion of shield; small simple setae on lateral margin at intervals of approximately 30 μ . VENTRUM. Jugular plates coalesced, with 1 pair setae at anterior margin, 1 pair pores at base. Plate 49 μ long, 107 μ wide at anterior margin. Sternal plate 37 μ long, 90 μ wide at the junction of the jugular plate, with 3 pair setae, 1 pair pores. Sternogynial shield concave at anterior margin; with 1 pair pores. Plate 135 μ long, 160 μ wide at the level of legs II and III. There are 2 pair of vaginal sclerites beneath the sternogynial plate. One pair beneath posterolateral margin of plate, the other pair extends from anterolateral to posteromedial portion of plate. Ventral plate 175 μ long, 365 μ wide at the border of anal plate, with scattered pores and pairs of setae. Anal plate 365 μ wide, 141 μ long; with 6 pair setae, 1 pair lateral to anal opening much larger (approximately 50 μ) than others; numerous scattered pores. Stigmatal opening between coxae III and IV; peritreme curves around coxae III and extends anteriorly to lateral margin of mite. Tritosternal base arises beneath jugular plates, 2 long barbed lacinae present.

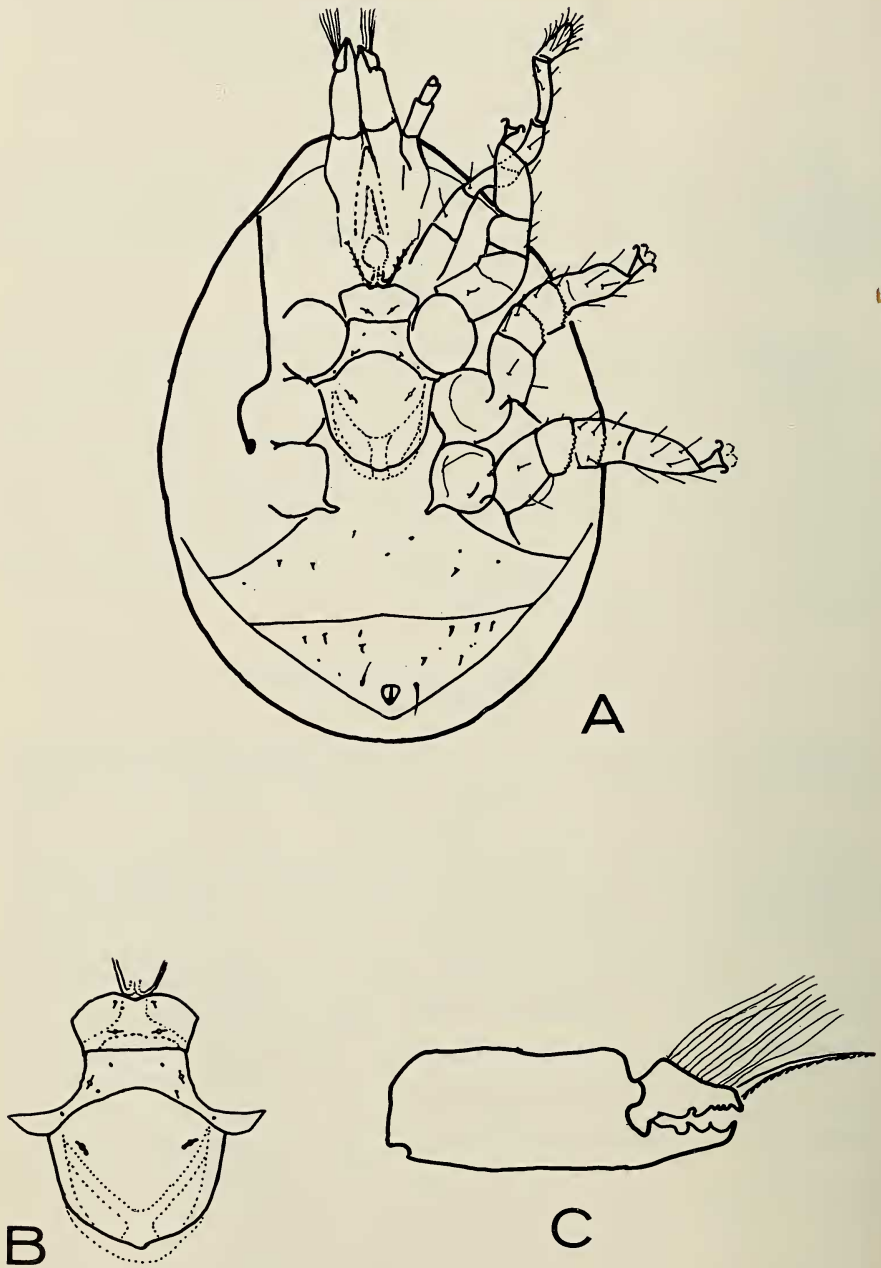


Fig. 1. *Neofedrizzia tani*: FEMALE: A, ventrum; B, genital area; C, chelicera.

GNATHOSOMA. Palps 5-segmented; some simple setae on all segments, most numerous on tarsus; broad flattened seta on femur, tarsi with apotele 2-tined; distal portion of trochanter extended and bifid with 2 long barbed setae. Chelicera chelate, fixed digit with 2 large teeth; movable digit with 1 large, 3 small teeth. Movable digit has filamentous excrescences; 1 thick and barbed seta arises from distal portion. Tectum with a single point, bordered by small barbs. LEGS. Legs II, III, and IV with caruncles and claws, leg I without such structures. All leg setae simple, numerous setae on tarsus of leg I; distal margin of genu and femur of legs II, III, and IV serrated; single flange-like structures on femora of legs II, III, and IV; large stout setae at posteromedial section of femora II, III, and IV.

Male.—Body shape similar to female. Dorsum as in female, idiosoma 810 μ long, 580 μ wide. VENTRUM. Jugular plates coalesced. Sternal plate extended anteriorly by a pair of lateral processes which curve anteromedially. Two semicircular genital plates cover the genital aperture which is 75 μ wide, 65 μ long; bordered by a variable number of pores (9–11) at lateral margins. Two pair pores and 3 pair setae lateral to genital plates. Ventral plate 290 μ long, 380 μ wide; with scattered setae and pores. Anal plate 130 μ long, 380 μ wide, pores and setae as in female. Tritosternal base large and bulbous; arises anterior to sternal plate, base with 2 long barbed lacinae at tip. Gnathosoma as in female except for presence of 2 thick barbed setae in excrescences of movable digit of chelicera. Legs and peritreme as in female.

The species was described on the basis of 4 female and 10 males. The species was collected at Santubong, Sarawak, Malaysia, 100' elevation, on August 23, 1969 (collected by Kiat W. Tan and Rhea Warren). The specimens were taken from alcohol vials which contained a species of beetle of the family Passalidae.

The size of the mites and their individual plates differed slightly throughout the series. Average measurements in microns and the standard deviations for parameters used in the type description were made on the entire series of mites and are given below:

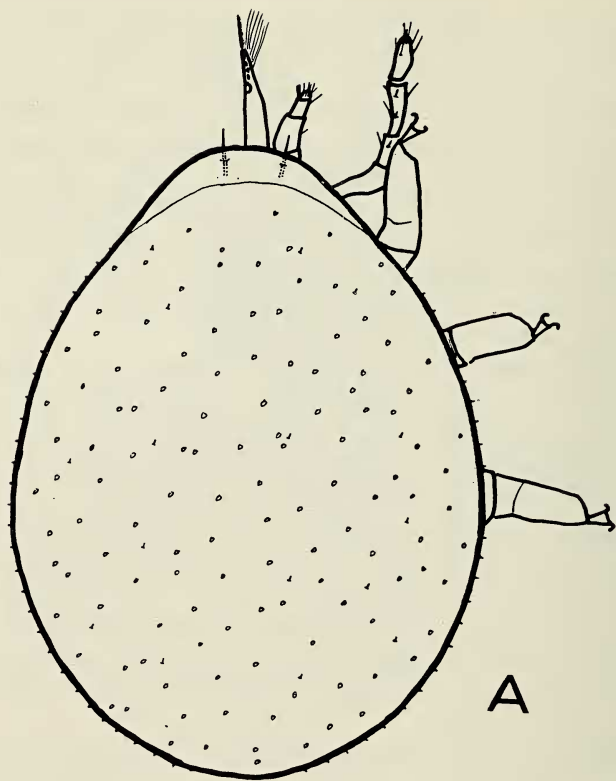
Females.—Idiosoma 768 \pm 9 long, 551 \pm 8 wide; jugular plates 100 \pm 9 long, 43 \pm 5 wide; sternogynial plates 139 \pm 5 long, 156 \pm 4 wide; ventral plates 159 \pm 17 long, 337 \pm 27 wide; anal plate 131 \pm 13 long, 337 \pm 27 wide.

Males.—Idiosoma 806 \pm 31 long, 597 \pm 19 wide; genital aperture 71 \pm 2 long, 65 \pm 3 wide; ventral plate 283 \pm 10 long, 380 \pm 9 wide; and plate 135 \pm 5 long, 380 \pm 9 wide.

N. tani may be distinguished from other mites in the genus by means of the following key which has been adapted from Wormersly (1959).

1 Male genital orifice between coxae III or between III and IV

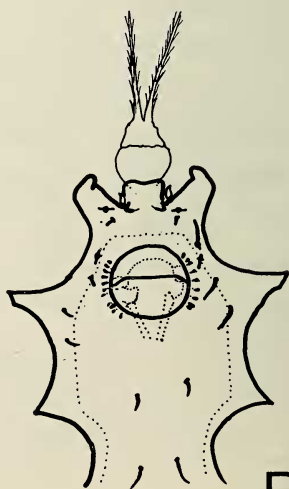
N. laevis (Canest.)



A



B



D

- 1' Male genital orifice between coxae II or between coxae II and III 2
 2(1') Hyaline portion of dorsal shield prolonged laterally and posteriorly to level of anterior margin of anal shield *N. scutata* Worm.
 2' Hyaline portion of dorsal shield not prolonged 3
 3(2') Anterior margin of sternogynial shield equal to or shorter than length of the shield all other mites in the genus not listed below
 3' Anterior margin of sternogynial shield longer than the shield 4
 4(3') Sternal plates of male prolonged anterolaterally *N. brooksi* Worm.
 4' Sternal plate of male prolonged anteromedially 5
 5(4') Genital orifice of male without any pores flanking it on posterior half *N. canestrinii* Worm.
 5' Genital orifice of male flanked posteriorly by distinct pores on each side *N. tani* Pope and Chernoff

The holotype and allotype of *N. tani* have been deposited in the United States National Museum, Washington, D.C. One female and 6 male paratypes have also been deposited in the U.S.N.M. Two female (1 dissected) and 3 male (1 dissected) paratypes are in the authors' collection.

Literature Cited

- Trägårdh, I. 1937. Zur Systematik der Mesostigmata. Arkiv fur Zoologi. Band 29B. No. II. pp. 1-8.
 Wormersly, H. 1959. Some Acarina from Australia and New Guinea paraphagic upon millipeds and cockroaches and on beetles of the family Passalidae. Trans. Roy. Soc. S. Aust. Vol. 82. pp. 11-51.

(RP) Miami Dade Community College, South Campus, Miami, Florida 33156; (NC) Environmental Protection Agency, Research Triangle Park, North Carolina 27711.

¹ This research was aided by O. T. S. Pilot Grant 69-3.

←

Fig. 2. *Neofedrizzia tani*: FEMALE: A, dorsum; B, leg I; C, leg IV. MALE: D, genital area.